GIS and landscape documentation: systemic issues of modern architecture in Ivrea, between historical structures and present transformations
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The work of this discussion is concerned with the creation of a documentation system for the investigation of Ivrea’s landscape, with a particular attention to the modern architectural heritage built from 1930 to 1980 thanks to the presence of Olivetti Industry.

The creation of a database and a GIS application allow to analyse the case studied not only from an historical point of view but also by a spatial and distributive one.

Classification of modern buildings based on their function
The Ivrea's modern architectural heritage is here considered – differently from others studies – entirely, to underline the "system", built during the past century, that connects the buildings each other not only from a spatial point of view but also from a functional point of view: in this system are so included not only industrial buildings but also social and charitable service buildings and residential buildings, a part of which belongs to residential neighbourhoods and the other part consists of single buildings planned by the "Ufficio Consulenza Case Dipendenti Olivetti", active from 1949 to 1969.

Different plan phases (conceptual, logical, physical) bring to the creation of next models (entity-relation model and relational model) that allow to represent reality through proper formalisms, bringing finally to the creation of the database: the elements on which the attention was focused are the single architectonical entities, including historical and modern buildings.

The data concerning this elements come mainly from the “Catalogo dei beni architettonici e tipologici di pregio” (set up by Comune of Ivrea from 1996 to 2000 in conformity with the L.R. 35/95) and from the executive rules of the regulator plan actually in force.

The conceptual model representing the reality individuates entities, relations between each other and attributes, that allowed to describe the elements belonging to each entity.
The GIS then realized was used as an analytic instrument, especially for spatial and
distributive analysis, but also as a powerful and dynamic instrument of representation
through its capacity to produce thematic maps: it was also tested as an instrument of
forecast and simulation, to individuate possible pedestrian walkways to include some
of the residential neighbourhoods into the actual Modern Architecture open-air
Museum, now localized along Jervis street and in the nearest areas.
It was also necessary to considered how this architectonical heritage became part of
the historical context, thus how it has been integrated with the pre-existing: so the
GIS included also the urban areas and buildings belonging to the so-called “historical
ancient city”, including the historical centre and the “cantons”, peripheric historical
structures that characterize still today Ivrea’s landscape.
Through spatial analysis realized stood out how there was in the major part a respect
of pre-existing, because only in few cases there was a strong contrast between
ancient and modern caused by the buildings nearness.

Example of the possibility to integrate different kind of data thanks to the use of GIS

The entire work was developed also to support the protection initiatives promoted in
the last years by Ivrea’s administration: a particular attention has been taken to the
actual buildings conditions, thus to their preservation conditions and eventually
restorations.
It was noticed the inadequacy of the collected data that often appeared to be incomplete, too generic and not always up-to-date: so it is necessary to have more specific data to monitor the preservation conditions of all buildings, in order to make this instrument really useful to the preservation of the Ivrea’s modern architectonical heritage, so to pursue the protection initiatives promoted till now by the communal administration.

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